CLAIMS

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1. A cable modem comprising:

a first interface for receiving data from a cable media; and

a pattern matching engine that evaluates patterns in the data that is received at the first interface of the cable modem and that enables the determination of appropriate procedures for treatment of the data.

2. The cable modem of claim 1 wherein the pattern matching engine is configured to match addresses segments of the data that is received at the first interface of the cable modem.

3. The cable modem of claim 1 wherein the pattern matching engine is a programmable pattern matching engine that may be programmed according to patterns that are desired to be matched during various operations of the cable modem.

4. The cable modem of claim 1 wherein the pattern matching engine enables determination of whether to accept a frame at the cable modem quicker than if the cable modem were required to wait on processing at a central microprocessor.

5. The cable modem of claim 1 wherein the pattern matching engine enables pattern matching of various length frame portions.

6. The cable modem of claim 5 wherein the various length frame portions are selected from the group consisting of bit length, byte length, word length, double word length, kilobyte length, and megabyte length.

7. A communication device for sending and receiving data comprising:

a receiving transducer for receiving data; and

a pattern matching engine configured to prevent the communication device from processing data that matches a predetermined pattern.

8. The communication device of claim 7 wherein the communication device is a cable modem.

9. The communication device of claim 8 wherein the receiving transducer receives the data from a cable media.

10. The communication device of claim 7 wherein the pattern matching engine is a programmable pattern matching engine that may be programmed to match a portion of a plurality of types of frames that are received at the receiving transducer.

11. A method for a communication device to compare a predetermined pattern to a pattern that corresponds to a portion of a data frame, the method comprising:

determining acceptable parameters for the data frames that are to be received at the communication device;

programming the acceptable parameters into a pattern matching engine in the communication device;

receiving a data frame at the communication device;

parsing the data frame to obtain a predetermined portion of the data frame; and

comparing the predetermined portion of the data frame with the acceptable parameters stored in the pattern matching engine.

12. The method of claim 11 further comprising registering the result of the comparison in a suitable format for access by a microprocessor.

13. The method of claim 12 further comprising reading the registered results with a microprocessor such that the microprocessor may determine whether to drop or accept the data frame that has been received at the communication device.

14. The method of claim 12 wherein the predetermined portion of the data frame is an address portion of the data frame.